IP Link® Device Interface Communication Sheet

This document provides additional assistance with wiring your Extron IP Link enabled product to your device. Different components may require a different wiring scheme than those listed below.

For complete operating instructions, refer to the user's manual for the specific Extron IP Link enabled product or the controlled device manufacturer supplied documentation.

Device Specifications:

Device Type: TV Tuner
Manufacturer: Contemporary Research
Firmware Version: 1.10
Model(s): 232-ATSC, 232-ATSC+, 232-ATSC+SDI

Version History:

Driver Version	Date	IP Link Compiler	GC Version	Notes
7	10/21/2013	1.6.0	3.5.1	Extron Certified Version. Added model 232-ATSC+SDI. Certified on 232-ATSC+SDI.
6	12/7/2012	1.5.1	3.3.2	Extron Certified. Updated to new standards. Tested on 232-ATSC+. Added model 232-ATSC+1.
5	04/24/2012	1.5.1	3.3.1	Extron Certified Version. Added Aspect Ratio.
4	07/28/2010	1.4.0	3.0.3	Extron Certified version. Updated driver to faster response to Channel buttons. Updated Volume (Discrete) command. Added model 232-ATSC+.
3	02/08/2010	1.4.0	3.0.2	Added Closed Caption and Close Caption Channel. Added 'List' menu call. Added MLC62 support.
2	10/30/2008	1.3.11.1	2.4.1	Added Channel Select and Channel status.
1	07/02/2007	1.3.11.1	2.2.1	Initial version.

Driver Notes:

- Selecting all units will only enable connection and power status.
- The Driver has been optimized for Volume.

Discrete Channel Control

To use discrete channel, enter channel number according to the signal type, then press enter to execute command.
Note: To choose only analog channels leave Minor Channel as 0.

Channel ranges:

Major Channel: 0-999
Minor Channel: 0-9

GV Tuning Examples:

To tune to channel 52 in Analog, press

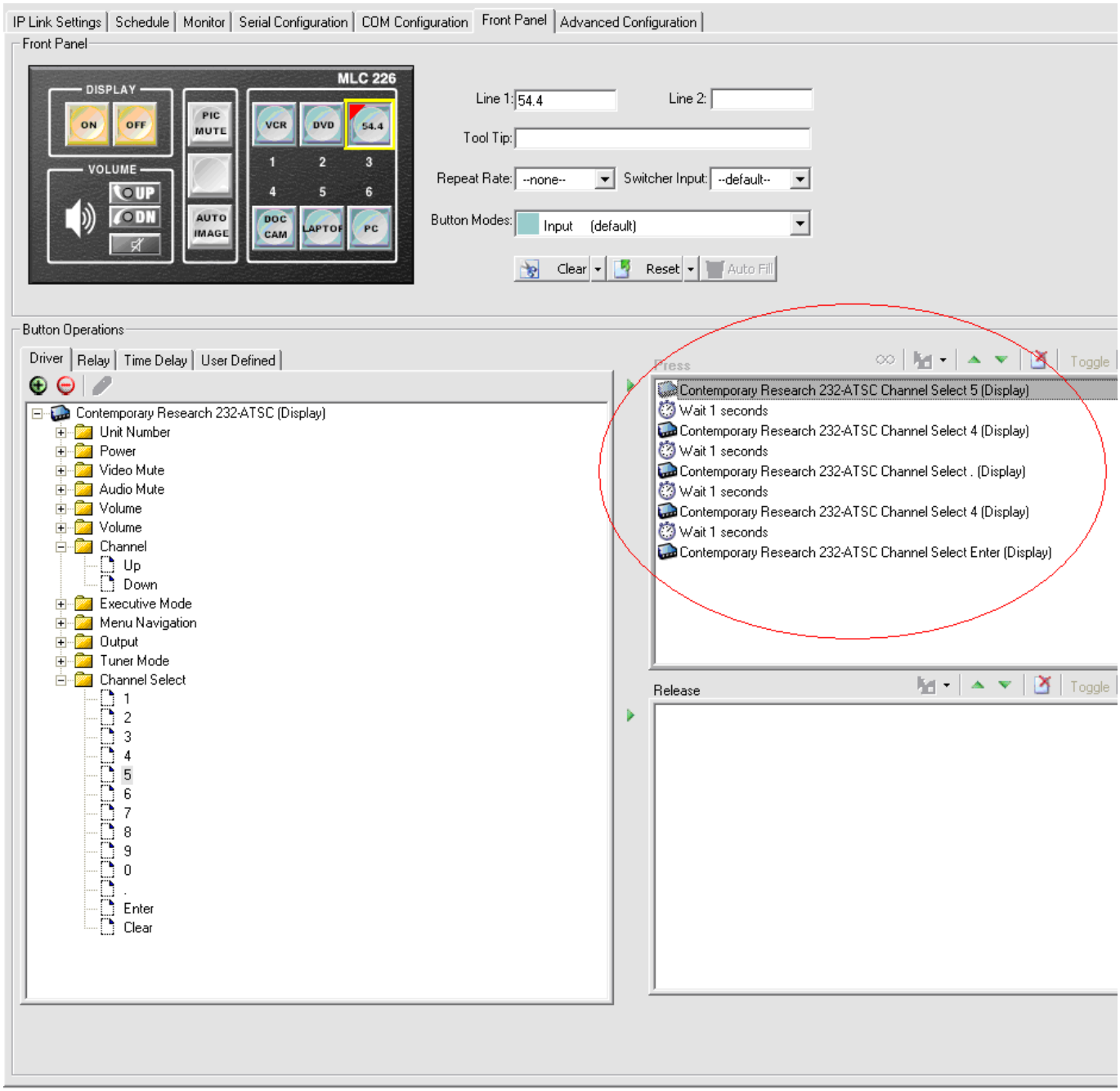
1. Choose Air/Cable in Tuner Mode
2. "5" in Channel Select
3. "2" in Channel Select
4. "Enter" in Channel Number (assuming minor channel was left at 0)

To tune to channel 52.4 in Digital, press

1. Choose Air/Cable in Tuner Mode
2. "5" in Channel Number
3. "2" in Channel Number
4. "." in Channel Number
5. "4" in Channel Number
6. "Enter" in Channel Number

MLC Configuration:

MLC front panel configuration through GC follows the same operation of commands as GV control; however a 1 second delay must be entered between each operation. See diagram on next page.
Refer to Figure below - Tuning to channel 54.4 in Digital Air.


IP Link Settings
Schedule
Monitor
Serial Configuration
COM Configuration
Front Panel
Advanced Configuration
Front Panel
MLC 226
DISPLAY
ON
OFF
VOLUME
UP
DN
PIC MUTE
AUTO IMAGE
VCR
DVD
54.4
1
2
3
4
5
6
DOC CAM
LAPTOP
PC
Line 1: 54.4
Line 2:
Tool Tip:
Repeat Rate: --none--
Switcher Input: --default--
Button Modes: Input (default)
Clear
Reset
Auto Fill
Button Operations
Driver
Relay
Time Delay
User Defined
Contemporary Research 232-ATSC (Display)
Unit Number
Power
Video Mute
Audio Mute
Volume
Volume
Channel
Up
Down
Executive Mode
Menu Navigation
Output
Tuner Mode
Channel Select
1
2
3
4
5
6
7
8
9
0
.
Enter
Clear
Press
Toggle
Contemporary Research 232-ATSC Channel Select 5 (Display)
Wait 1 seconds
Contemporary Research 232-ATSC Channel Select 4 (Display)
Wait 1 seconds
Contemporary Research 232-ATSC Channel Select . (Display)
Wait 1 seconds
Contemporary Research 232-ATSC Channel Select 4 (Display)
Wait 1 seconds
Contemporary Research 232-ATSC Channel Select Enter (Display)
Release
Toggle

Control Commands & States:

Aspect Ratio	Toggle		
Audio Mute	On	Off	
Channel	Up	Down	
Channel Select	0 – 9	.	Enter
	Clear		
Close Caption Channel	CC1 – CC4	TEXT1 – TEXT4	
Closed Caption	On	Off	
Executive Mode	All	Volume	Volume+Mute A/V
	None	Channel	Channel+Volume
	Mute A/V	Channel+Mute A/V	
Menu Call	List	Menu	
Menu Navigation	Left	Right	Up
	Down	Enter	Exit
Output	RGB[1]	YPbPr	
Power Control	On	Off	
Tuner Mode	Air	Cable	
Unit Number	1 – 9	All Units	
Video Mute	On	Off	
Volume (Discrete)	0 to 63		
Volume (Step)*	Up	Down	Stop

*Volume (step) control is a press release function. The stop button has been made specifically for the MLC/TLP front panel configuration to mimic the release of Volume (Step).

1. RGB output format is not applicable for the atsc+sdi model.

Status Available:

Audio Mute	On	Off	
Close Caption Channel	CC1 – CC4	TEXT1 – TEXT4	
Closed Caption	On	Off	
Connection Status	Connected	Disconnected	Status Unavailable
Executive Mode	All	Volume	Volume+Mute A/V
	None	Channel	Channel+Volume
	Mute A/V	Channel+Mute A/V	
Output	RGB	YPbPr	
Major Channel*	Channel		
Minor Channel*	Channel		
Power Control	On	Off	
Major Channel Status	Channel		
Minor Channel Status	Channel		
Tuner Mode	Air	Cable	
Video Mute	On	Off	
Volume (Discrete)	0 to 63		

*Displays current selection; not actual status.

MLC60 Series Supported Commands:

Aspect Ratio	Toggle		
Audio Mute	On	Off	
Channel	Up	Down	
Close Caption Channel	CC1 – CC4	TEXT1 – TEXT4	
Closed Caption	On	Off	
Executive Mode	All	Volume	Volume+Mute A/V
	None	Channel	Channel+Volume
	Mute A/V	Channel+Mute A/V	
Menu Call	List	Menu	
Menu Navigation	Left	Right	Up
	Down	Enter	Exit
Output	RGB	YPbPr	
Power Control	On	Off	
Tuner Mode	Air	Cable	
Video Mute	On	Off	
Volume (Discrete)	0 to 63		
Volume (Step)	Up	Down	Stop**

*MLC60 commands work for Unit ID – All, only.

**The ‘Stop’ command must be configured on the button that the Up/Down commands are assigned.

Cable and Adapter Requirements:

F/F RS-232 DB9 Null Modem Serial Cable

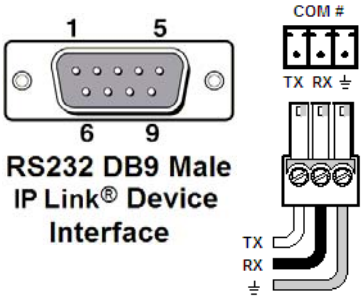
Notes for the Device:

- RS232 wiring should only use pins 2, 3 and 5. Cables with all pins wired can lock out front-panel programming and data communication.
- Up to nine tuners can be daisy-chained from one RS232 control port. The first unit in the RS232 chain will have the highest Unit# (i.e. the first unit in a system of three will have unit# 3). See user manual for wiring setup.

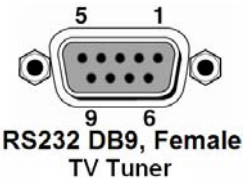
Serial communication:

Port Type:	RS-232	**Parity:**	None
Baud Rate:	9600	**Stop Bits:**	1
Data Bits:	8	**Flow Control:**	None

Pin Assignments Diagram:



Signal	Pin	Main Cable	Pin	Signal
RxD	2		2	RxD
TxD	3		3	TxD
GND	5		5	GND



Note: Captive screw connector may also be used as a serial connection.

General Notes: